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ABSTRACT

Adaptive behavior was measured for 79 institutionalized retarded persons (11 to 48 years old) to investigate patterns of levelling off in developmental progress, as measured by the American Association on Mental Deficiency Adaptive Behavior Scale (ABS). Total scores for part 1 (adaptive behaviors) and part 2 (maladaptive behaviors) were analyzed separately for each of four groups (mild, moderate, severe, and profound retardation) by means of a one way repeated measures and analysis of variance. Findings confirmed the observation that all Ss demonstrated levelling off on part 1 of the ABS, with a pattern showing an initial increase in the scores occurring within a period of 18 months. Scores on part 2 (maladaptive behavior) did not reveal a consistent pattern, suggesting that clients who show an increase in adaptive behaviors do not necessarily exhibit a corresponding decrease in maladaptive ones. (CL)

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Levelling-Off In Developmental Progress Among Institutionalized Retarded Persons

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Running Head: Levelling-off in Developmental Progress

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Development refers to the intellectual, emotional and physical results of the consant interaction between biological-genetic endowment and the environment (Wyne and O'Connor, 1979). Deviations in development such as mental retardation, resulting in exceptional behaviors may occur from biological deviations during prenatal development. In most cases, the direct causes of these deviations do result in affecting cognitive, affective and psychomotor behaviors of individuals in a manner that affects normal functioning within the society.

The Woodhaven Center located in Philadelphia, Pennsylvania, provides a short-term facility to train severe, profound, mild and moderately retarded individuals to function independently, specifically in the cognitive, affective and psychomotor domains of behavior. When a client enters Woodhaven, a program plan is established for each client. It contains specific goals set for the client in the areas of physical development, general health improvement, cognitive development, social interaction, behavior improvement, vocational and community living skills, and education. The specific emphases within these goals are determined according to the individual needs of each client.

Woodhaven has nine cottages within which the clients reside. The cottage manager of each cottage is responsible for the implementation of each client's program plan within that specific cottage. Services are delivered to the clients by specialists in the respective fields.

The effectiveness of the training program is determined by the progress of each client toward independent functioning. The Program Planning Team evaluates the client's progress three times during the course of the year. If a client does not respond to interventions based on program plans, after a reasonable period of time, a new program may be developed for the client.

In addition to the evaluation of the individual clients by the program planning team, clients are evaluated on the American Association of Mental Deficiency Adaptive Behavior Scale (ABS), 1974.

While it has been shown that clients at Woodhaven do show developmental progress, especially as demonstrated in ABS Part one scores, (Spreat and Tyson, 1977; Conroy, 1977; Isett and Spreat, 1977), preliminary observations of Conroy and Lemanowicz (1978) demonstrate that client progress on adaptive behaviors

(Part one of the ABS) when measured over a period of two years, tends to level-off gradually after demonstrating a substantial period of initial progress, thus indicating a diminishing return in progress over a long period of time.

A review of the related literature suggested that the phenomenon of "leveling-off" in the developmental growth of institutionalized mentally retarded individuals has not yet been systematically explored; only two studies (Nihira, 1976; Schwartz and Allen, 1974) refer to "levelling-off" observations among mentally retarded clients.

While observing the changes in the factor scores on part one of the ABS for 3,354 institutionalized children and adults, Nihira (1976) found that while developmental progress of mentally retarded clients is related to the initial severity of retardation, borderline and mildly retarded groups indicated an initial rapid progress during childhood, reaching maximum growth during adolescence, thereafter demonstrating levelling-off until senility. However, severe and profoundly retarded groups did not demonstrate levelling-off.

In a longitudinal study assessing adaptive behavior among 414 mentally retarded clients, Schwartz and Allen (1974) found that clients showed a yearly level of progress during the initial three years of their institutional stay, but there was a decline in the rate of improvement during the fourth year, indicating levelling-off in the nature of progress.

Since clients who go through intervention programs for their progressive development are expected to show a continuous progress in adaptive behaviors rather than a diminishing return or levelling-off, it was thought that the characteristic of levelling-off in client progress noted by Conroy and Lemanowicz (1978) should be further investigated and confirmed as this would throw light on the nature of client developmental progress and the effectiveness of the intervention programs. Hence, individual differences in levelling-off among clients were investigated. Performance of clients levelling-off on adaptive behaviors was investigated on maladaptive behaviors.

Method

Subjects

The subjects for this study consisted of 79 clients (50 males and 29 females) most of whom were admitted to the Woodhaven Center in the year 1975 or 1976 and for whom data on the ABS was collected within six months after admissions and every three to nine months thereafter. The ages of the clients ranged from 11 years to 48 years. The sample was considered to be representative of the pop-

ulation since there were no marked discrepancies between sample and population characteristics (see Table 1).

Instruments

Adaptive Behavioral Scale. Developed for assessing mentally retarded clients on adaptive and maladaptive behaviors, this scale consists of two parts. Part one contains 66 items designed to provide a measure of the client's adaptive behavior. Part two consists of 44 items related to maladaptive functioning in fourteen domains. Table 2 contains a list of the Adaptive Behavior Scale domains.

Inter-rater reliabilities of domains in Part one range from .93 for the domain of physical development to .71 for the domain of self-direction (Nihira,1976). Test-retest reliability of the domains for Part 1 were found to exceed .80 (Bean and Roszkowski, 1979). For Part II of the Adaptive Behavior Scale, test-retest reliabilities were lower and did not exceed .80 for any of the domains.

Procedure

The subjects were rated by their caretakers using the Adaptive Behavior Scale. By means of utility Program followed by programs from the Statistical Package for the Social Sciences (Nie et al, 1974) all clients who had six successive ABS administrations were located. The data consisted of Client I. D. number, year and month of Woodhaven admission, year and month of each administration, sex, level of retardation, latest I. Q., year and month of birth. Each record also contained observed over the six administrations.

Results

The total scores for Part one (Adaptive Behaviors) and Part two (Maladaptive Behaviors) were analyzed separately for each one of the four groups (mild, moderate, severe and profound retardation) by means of a one-way repeated measures and analysis of variance. Changes in mean ABS scores were also observed through graphic representations.

Analyses of the mean ABS scores (Part 1) indicated a significant main effect for all four groups $F(6, 35) = 7.04$, $P < .001$ for the mildly retarded group, $F(13, 70) = 5.73$, $P < .001$ for the moderately retarded group, $F(32, 165) = 7.48$, $P < .001$ for the severely retarded group and $F(23, 120) = 6.07$, $P < .001$ for the profoundly retarded group. Post-hoc Scheffe test for multiple comparisons revealed that in the mildly retarded group the mean scores for the first administration compared with the mean scores for the second, fourth, fifth and sixth administrations differed significantly from each other. In the moderately

retarded group the mean scores for the first administration compared with the mean scores for the fourth, fifth and sixth administrations differed significantly from each other. In both the severely and profoundly retarded groups, the mean score for the first administration was found to be significantly different when compared with the mean scores for the third, fourth, fifth and sixth administrations. The other comparisons between the mean scores were not found to be significantly different in any group. Table 1 graphically represents the changes in the mean scores across the six administrations, for the four groups. Trend analyses of these curves indicated a significant linear and quadratic component for the mildly retarded group, a significant linear and cubic component for the mildly retarded and profoundly retarded groups, while there was a significant linear and quadratic component for the moderately retarded group.

Analyses of the mean ABS scores (Part II) indicated that there were no significant differences between the overall mean scores for the mild, moderate and severely retarded groups across the Six ABS administrations. Only the overall mean scores across the six administrations for the profoundly retarded group were found to be significantly different, $F(23, 120) = 2.49$, $P < .05$. Post-hoc Scheffe test for multiple comparisons revealed that the mean scores for the first scores and second administrations and for the second and fifth administrations differed significantly. Comparisons between the other mean scores were not found to differ significantly. Figure 2 graphically represents the mean scores for the four groups across the six administrations. Trend analyses of the curves revealed no significant trends.

Discussion

The findings of the study confirm the observation that all clients did demonstrate levelling-off on Part one of the Adaptive Behavior Scale (adaptive behaviors). The typical levelling-off pattern consistently noted showed that an initial increase in the scores across the first three adminstrations occured within a period of 18 months (on an average); this is particularly confirmed by the trend components in the analyses. These findings may indicate that at Woodhaven, the clients do not demonstrate any significant learning of adaptive functioning after the initial period, thus suggesting the ineffectiveness of intervention programs after that period. This finding is especially interesting in the light of the fact that levelling-off in client progress was a general finding among all clients, regardless of level of retardation.

In general, scores obtained on maladaptive behavior do not depict any

consistent trend or pattern across the six administrations as do the scores on adaptive behaviors. In most situations, while evaluating clients on the Adaptive Behavior Scale, information about the clients which is obtained on the maladaptive behaviors should be expected to be complementary to the information about clients on adaptive behaviors. Thus, clients who show an increase in adaptive behaviors are generally expected to show a consistent decrease in maladaptive behaviors. The data on the maladaptive behaviors suggests that this is not necessarily true. Much of the uninterpretable data on maladaptive behaviors are likely to be due to the rater differences in observing maladaptive behaviors which are difficult to evaluate as compared to progressive adaptive behaviors. For instance, rebellious behavior in a young child may be considered normal while being considered a psychological disturbance in an adult.

Finally, it should be mentioned that Woodhaven Program Planning Committees create a combination of behavioral and cognitive goals for clients, depending upon the functioning level of the client who enters Woodhaven. Hence, research regarding developmental progress may be meaningful to be explored separately for each individual client based upon the client's level of functioning and the goals created for the client since individual differences are bound to exist even among clients who are at the same level of retardation.

A theoretical question which needs to be explored is whether levelling-off is a natural set-back that is to be expected in the process of any learning. According to Inhelder (1974) who looks at mental retardation as a developmental delay from the Piagetian perspective, mentally retarded children demonstrate a tendency to return to lower levels of cognitive functioning, or demonstrate fixation at certain stages in development. If such a phenomenon is expected in the developmental progress of mentally retarded individuals, then, levelling-off on the scores is quite natural.

Table I

SAMPLE AND POPULATION CHARACTERISTICS

CHARACTERISTICS	POPULATION	SAMPLE
1. Level of Retardation	N = 276	N = 79
Mild	34 (12.3%)	7 (8.86%)
Moderate	73 (26.4%)	14 (17.72%)
Severe	107 (38.8%)	33 (41.77%)
Profound	48 (17.4%)	25 (31.64%)
2. Sex		
Male	172 (62.3%)	50 (63.29%)
Female	101 (36.6%)	29 (36.71%)
3. Date Admitted	Median = 10/75	Median - 11/75
4. Age	Mean = 55.5	Mean = 49.81

Table 2

ABS DOMAIN AREAS

Part I	Part II
1. Independent Functioning	1. Violent and Destructive Behavior
2. Physical Development	2. Antisocial Behavior
3. Economic Activity	3. Rebellious Behavior
4. Language Development	4. Untrustworthy Behavior
5. Numbers and Time Concept	5. Withdrawl Behavior
6. Domestic Activity	6. Stereotyped Behavior
7. Vocational Activity	7. Inappropriate Interpersonal Manners
8. Self-Direction	8. Unacceptable Vocal Habits
9. Responsibility	9. Eccentricity
10. Socialization	10. Self-abuse
	11. Hyperactivity
	12. Sexually Abusive Behavior
	13. Psychological Disturbances
	14. Use of Medications

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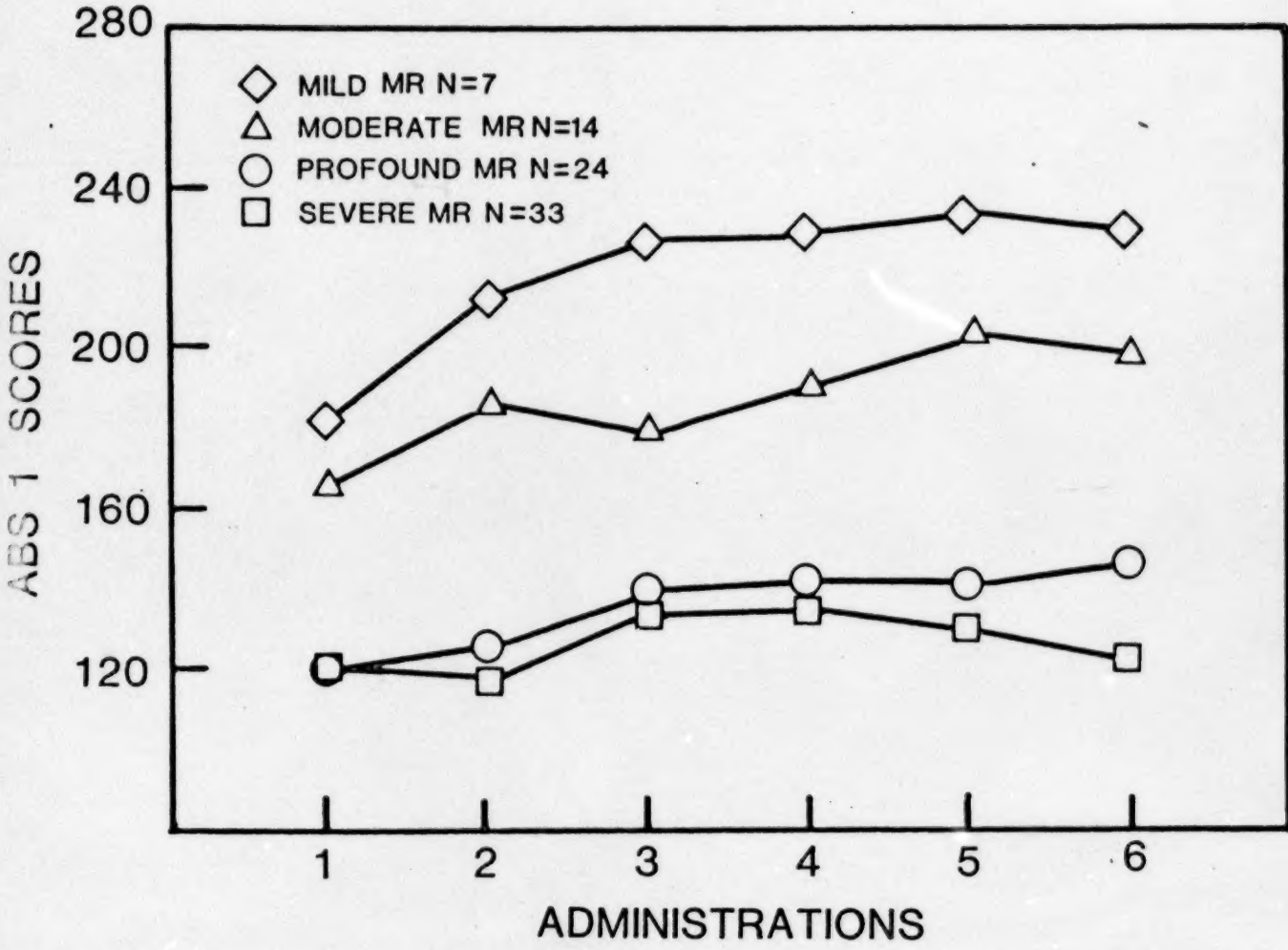
280
240
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ABS 1 SCORES
MILD MR N=7
MODERATE MR N=14
PROFOUND MR N=24
SEVERE MR N=33
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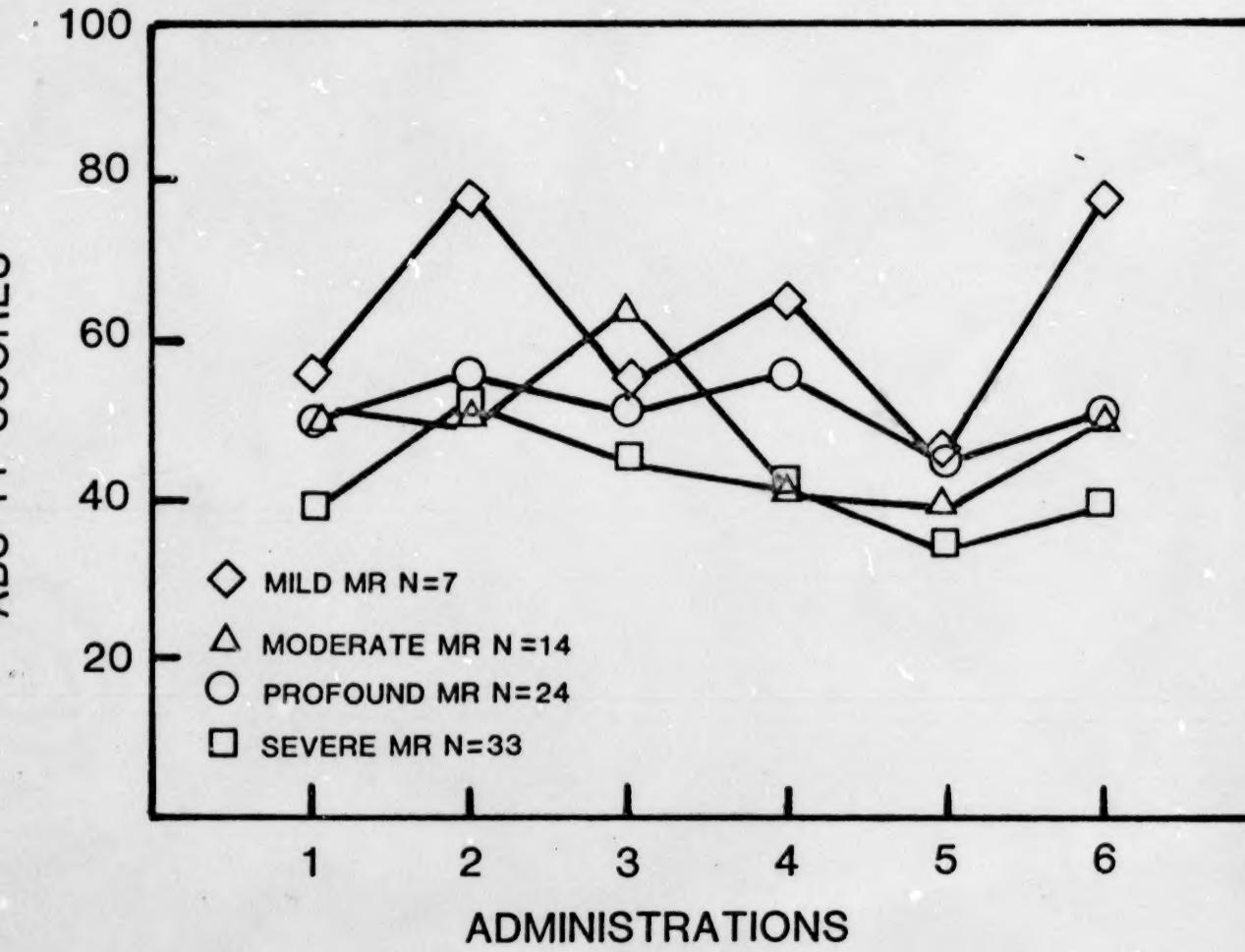
ADMINISTRATIONS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ADMINISTRATIONS